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| 09/702,927      | 10/31/2000  | Seraphin B. Calo     | YOR920000757US      | 9927             |

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IBM Corporation  
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EXAMINER

TRAN, LAMBERT L

| ART UNIT | PAPER NUMBER |
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|----------|--------------|

2142

DATE MAILED: 10/01/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/702,927

Applicant(s)

CALO ET AL.

Examiner

Lambert L. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 31 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☒ Claim(s) 1-34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. This Action is in response to the application filed on 31 October 2000.
2. Claims 1-34, presented for examination, are pending.
3. Claims 7, 20, 33, 34, qualify as independent claims. Claims 7 and 20 describe a computer program and an article of manufacture, respectively, of the methodology set forth in independent claim 1. Claims 33 and 34 describe an article of manufacture and a computer program, respectively, of the methodology set forth in independent claim 21. Since, the Patent Application Transmittal Letter, filed with the Office on October 31, 2000, authorized the Commissioner to charge "Any additional filing fees required under CFR 1.16" to "Deposit Account No. 09-0468", Applicant has been charged accordingly.

#### ***Priority***

4. No claim for priority has been made in this application.

#### ***Specification***

5. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

***Claim Objections***

6. The claims are objected to because the lines are crowded too closely together, making reading and entry of amendments difficult. Substitute claims with lines one and one-half or double spaced on good quality paper are required. See 37 CFR 1.52(b).

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 21 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Claim 21 recites the limitation "*evaluating a request for said at least one application to determine a part that is executable at the first proxy server; and executing said part at said proxy server*". It is not clear what "**a part**" is referred to.

10. Claim 30 recites the limitation "*said first client*" in claim 21. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-14, 17-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al., U.S. Patent No 6,341,311, hereinafter referred to as Smith, in view of Barry et al., U.S. Patent No 6,615,258, hereinafter referred to as Barry.

13. In regard to claim 1, Smith disclosed a method to direct data object access comprising the steps of:

*redirecting to one server of a plurality of proxy servers at least one service request (a URL data object) received from a client for said at least one application [see Smith, ABSTRACT, and figure 2];*

*determining a set of programs required at said one server to fulfil said request for said at least one application [see Smith, ABSTRACT, lines 5-9]; and*

*executing said set of programs (data objects) [see Smith, col. 7, lines 5-18].*

14. In regard to claims 7, 20, these claims describe a computer program, and an article of manufacturing that presented in claims 1. They are rejected by the same rationale.

15. In regard to claim 2, Smith disclosed *examining a cache of programs to obtain the set of programs [see Smith, col. 4, lines 46-49].*

16. In regard to claim 3, Smith disclosed *cache is located at another server of said plurality of proxy servers (distributed cache) [see Smith, col. 5, lines 5-17].*

17. In regard to claim 4, Smith disclosed the invention substantially as claimed. However, Smith did not disclose *returning the results of the step of executing to the client*. In the same field of distributed computing, Barry disclosed *returning the results of the step of executing (translated back) to the client [see Barry, col. 9, lines 38-56].* An ordinary artisan in the art at the same time

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the invention was made, would have been motivated to look to a way to access the correct proxy servers [see Smith col. 4, lines 10-11].

18. Accordingly, it would have been obvious to one of ordinary skill in the distributed computing art at the time the invention was made to have incorporated Smith's teachings of allowing a data object request made to a proxy server array to be routed to the proxy server having the desired data object [see Smith, col. 4, lines 26-30] with the teachings of Barry's, for the purpose of serving client request without making expensive query-response transactions with each and every proxy server in the array.

19. In regard to claim 5, Barry disclosed *forwarding a portion of the request that needs to be satisfied at another server to said another server* [see Barry, col. 9, lines 38-45].

20. In regard to claim 6, Barry disclosed *another server is a backend server* [see Barry, col. 36, lines 20-23].

21. In regard to claim 8, Barry disclosed *obtaining parameters for execution from a backend server* [see Barry, col. 54, lines 52-55, col. 61, lines 51-54]; and *writing any resulting logging and error messages to said backend server* [see Barry, col. 51, lines 1-6].

22. In regard to claim 9, Barry disclosed *parsing the request* [see Barry, col. 61, lines 51-54].

23. In regard to claim 10, Barry disclosed *retrieving a proxylet-record, and looking up a field of said proxylet-record* (analyzing, validating formatted messages) [see Barry, col. 61, lines 51-54].

24. In regard to claim 11, Smith disclosed:

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*employing a local store in determining a first- set of programs present at the first proxy server ;  
and*

*downloading a second set of programs from another server for said second set of- programs not  
present at said proxy [see Smith col. 7, lines 5-18, col. 10, lines 66-67, col. 11, lines 1-6, and col.  
11, lines 14-25].*

25. In regard to claim 12, Smith disclosed *redirecting (route) is based upon a priori  
knowledge (deterministic algorithm) of location of said set of programs [see Smith, col. 13, lines  
17-28].*

26. In regard to claims 13-14, the combination Smith-Barry disclosed:  
*said a-priori knowledge is deployed at a domain name server [see Smith, col. 13, lines 17-28,  
see Barry, col. 52, lines 24-36].*

*said a-priori knowledge is deployed at a backend server [see Smith, col. 13, lines 17-28, see  
Barry, col. 41, lines 54-63].*

27. In regard to claim 17, Smith-Barry disclosed:  
*a set of programs used in said at least one application, said set of programs retrieved from a  
back-end server and executed locally to satisfy part of at least one request received from a client  
[see Barry, col. 41, lines 47-53];*

*a set of cached data associated with said set of programs [see Smith, col. 7, lines 56-64];*

*a set of information-management records for said set of programs [see Barry, col. 4, lines 21-  
54]; and*

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*a Cache Manager for maintaining the set of programs, the set of cached data and the set of information-management records in distribution of said at least one application (Transaction manager and cache management) [see Barry, col. 36, lines 23-28, Smith, col. 20, lines 25-34].*

28. In regard to claim 18, Smith-Barry disclosed:

*a first set of programs used for said at least one application that, said set of programs being distributed to at least one server of a plurality of proxy servers within the network [see Smith, col. 5, lines 7-17];*

*a second set of programs used for said at least one application, said set of programs being executed locally by the backend server [see Barry, col. 36, lines 55-59];*

*a third set of programs used for said at least one application, said third set of programs to receive logging and error messages from the execution of said first set of programs [see Barry, col. 42, lines 13-23]; and*

*an accessing server to provide access to the first set of programs by any of the proxy servers [see Smith, figure 10, col. 19, lines 19-31].*

29. In regard to claim 19, Smith-Barry disclosed *a request redirector for redirecting requests [see Smith, col. 20, lines 1-5].*

30. In regard to claim 21, as understood, Smith-Barry disclosed:

*redirecting one client for said at least one application, to a first proxy server from a plurality of proxy servers [see Smith, col. 5, lines 7-17, col. 7, lines 5-18];*

*evaluating a request for said at least one application to determine a part that is executable at the first proxy server; and*



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*executing said part at said proxy server* [see Barry, col. 61, lines 51-61].

31. In regard to claims 22-24, as understood, Smith-Barry disclosed:

*obtaining at least one program used by said at least one application enabling said step of executing, determining a location, obtaining values of parameters* [see Barry, col. 61, lines 51-61].

32. In regard to claims 25-26, as understood, Smith-Barry disclosed:

*performing at least one operation to satisfy said request; and writing any resulting logging messages to a backend server; backend server is managing said at least one program* [see Barry, col. 41, lines 47-63].

33. In regard to claims 27-29, as understood, Smith-Barry disclosed:

*said location is the location of a second proxy server; obtaining a proxylet-record for said request; and looking up at least one field in the proxylet-record* [see Barry, col. 54, lines 52-62, col. 61, lines 46-61].

34. In regard to claim 30, as understood, Smith-Barry disclosed:

*redirecting a second request from said first client to a second proxy server* [see Smith, col. 4, lines 26-45, see Barry, col. 54, lines 23-67].

35. In regard to claim 31, as understood, Smith-Barry disclosed:

*redirecting a second request received from a second client to said first proxy server* [see Smith, col. 4, lines 26-45, see Barry, col. 54, lines 23-67].

36. In regard to claim 32, as understood, Smith-Barry disclosed:

*redirecting a second request received from a second client to a second proxy server* [see Smith, col. 4, lines 26-45, see Barry, col. 54, lines 23-67].

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37. In regard to claims 33-34, these claims describe an article of manufacturing, and a computer program that presented, as understood, in claims 21. They are rejected by the same rationale.

38. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, in view of Barry, in further view of Swildens et al., U.S. Patent No 6,484,143 hereinafter referred to as Swildens.

39. In regard to claim 15, Smith-Barry disclosed *an application distributor, a information-management recorder, an execution device* [see Barry, col. 9, lines 10-22, col. 13, lines 36-67, col. 14, lines 1-9, col. 42, lines 14-23].

40. The combination Smith-Barry disclosed the invention substantially as claimed. However, Smith-Barry did not disclose the use of a load balancer. In the same field of endeavor, Swildens disclosed:

*a wide area load balancer for distributing at least one request from at least one client to a particular proxy server from among a plurality of proxy servers* [see Swildens, col. 4, lines 45-55, col. 15, lines 19-33]. An ordinary artisan in the art at the same time the invention was made, would have been motivated to look to a way to balance the load among proxy servers because each addition of another proxy server onto the array of proxy servers will in fact increase the amount of communication between the different proxy servers for all array members [see Smith, col. 4, lines 51-56].

41. Accordingly, it would have been obvious to one of ordinary skill in the distributed computing art at the time the invention was made to have incorporated the combination Smith-Barry teachings with Swildens' teachings of using a load balancer among the proxy servers for

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the purpose of improving the transfer of information over a network [see Swildens, col. 1, lines 62-63].

42. In regard to claim 16, Barry disclosed *a request forwarder for forwarding to another server any portions of said at least one request which have to be executed at said another server* (remote servers), [see Barry, col. 3, lines 64-67, col. 4, lines 1-2].

43. Since all the claims limitations were disclosed by the combination Smith-Barry-Swildens, claims 1-34 are rejected.

### ***Conclusion***

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Van Hoff et al., U.S. Patent No 6,272,536, disclosed system and method for the distribution of code and data.
- b. Gurijala et al., U.S. Patent No 6,601,090, disclosed system and method for servicing internet object accesses from a coupled intranet.
- c. Li et al., U.S. Patent No 6,591,266, disclosed system and method for intelligent caching and refresh of dynamically generated and static web content.
- d. Nakayama et al., U.S. Patent No 6,493,748, disclosed information management system, local computer, server computer, and recording medium.

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45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lambert L. Tran whose telephone number is (703) 305-4663.

The examiner can normally be reached on Monday-Friday from 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached at (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9700.

LLT  
Assistant Examiner  
GAU 2142  
September 22, 2003

MARC D. THOMPSON  
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